



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,839	01/12/2005	Tetsuya Tanaka	263986US2PCT	7511
22850	7590	12/28/2005	EXAMINER LOFTIN, CELESTE	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ART UNIT 2686	PAPER NUMBER

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,839

Applicant(s)

TANAKA, TETSUYA

Examiner

Celeste L. Loftin

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/12/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosonuma, **U.S. Publication 09,866,973**.

Regarding claim 1, Hosonuma discloses a mobile radio set comprising: a first housing and a second housing including any of a transmitter circuit section, a receiver circuit section, and a radio circuit section (the foldable portable telephone set includes the upper body (second housing) which includes a receiver and a lower body (first housing) which includes a transmitter) (**paragraph [0040]**); a flexible cable providing a connection between a circuit section of said first housing and a circuit section of said second housing (the I1 current flows from the upper body to the lower body therefore a (connection between the circuit sections is inherent, there is a hinge that connects the upper and lower bodies (the hinge the flexible therefore it is inherent that the connection must be flexible) (**paragraphs [0051], [0049] and [0042]**); an antenna that is electrically connection to said radio circuit section (the radio section for executing demodulation and other process for a radio signal received through the antenna) (**paragraph [0042]**) and is located at the end of said second housing remote from said first housing (the

upper body (second housing) has a telescopic antenna provided thereon) (**paragraph [0039]**) ; a bottom board cable providing a connection between bottom boards of said first housing and second housing (the antenna, antenna matching circuit and matching characteristic changeover circuit are connected to one another through an antenna feeding point) (**paragraphs [0049], [0042], [0051], and Figure 2**) ; and a variable load that is inserted in series in said bottom board cable (the matching characteristic changeover circuit contains a resistor that varies based on the voltage supplied to it) (**paragraph [0049], [0055], and [0053]**).

Regarding claim 2, Hosonuma discloses the mobile radio set according to claim 1, wherein a frequency to be used is detected, and a reactance component of said variable load is changed depending on a detected frequency (the high frequency current varies depending on the state (whether the phone is folded or not) of the phone and the control section detects the state of the phone and then applies a predetermined voltage to the resistor and the current defined by value of the resistor flows through R1 (if the frequency current is not detected (due to the state) voltage will not be applied to the resistor)) (**paragraph [0051] , [0053], and [0055]**).

Regarding claim 3, Hosonuma discloses the mobile radio set according to claim 1, wherein it is detected whether being in a standby state or a telephone call state (it is well known in the art that when a foldable phone is close the phone is in standby state and when the foldable phone is open it is in a state for a telephone call), and a reactance components of said variable load is changed depending on a detected state (the high frequency current varies depending on the state (whether the phone is folded

Art Unit: 2686

or not) of the phone and the control section detects the state of the phone and then applies a predetermined voltage to the resistor and the current defined by value of the resistor flows through R1 (if the frequency current is not detected (due to the state) voltage will not be applied to the resistor)) (**paragraph [0051] , [0053], and [0055]**).

Regarding claim 4, Hosonuma discloses the mobile radio set according to claim 1, wherein said first housing and second housing can be flip-open or closed, it is detected whether or not said housings are in an open state or in a closed state (whether the phone is folded or not), and a reactance component of said variable load is changed depending on a detected state (the high frequency current varies depending on the state (whether the phone is folded or not) of the phone and the control section detects the state of the phone and then applies a predetermined voltage to the resistor and the current defined by value of the resistor flows through R1 (if the frequency current is not detected (due to the state) voltage will not be applied to the resistor)) (**paragraph [0051] , [0053], and [0055]**).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosonuma, **U.S. Publication 09,866,973**, in view of Uozumi et al (Uozumi), **U.S. Publication 10,373,020**.

Regarding claim 5, Hosonuma discloses the mobile radio set according to claim 1, but fails to disclose wherein an active element such as a varicap diode is employed as said variable load.

In a similar field of endeavor, Uozumi wherein an active element such as a varicap diode is employed as said variable load (the RFVCO has a varicap diode as a variable capacitor element, such that this varicap diode is changed by the tuning voltage from the LPF) (**paragraph [0067] and [0066]**).

At the time of the invention it would have been obvious of one skilled in the art to modify Hosonuma to include wherein an active element such as a varicap diode is employed as said variable load. Motivation for this modification would have been compensate for the fluctuation of the sensitivity of the frequency thus improving the performance.

Regarding claim 6, Hosonuma discloses the mobile radio set according to claim 2, but fails to disclose wherein an active element such as a varicap diode is employed as said variable load.

In a similar field of endeavor, Uozumi wherein an active element such as a varicap diode is employed as said variable load (the RFVCO has a varicap diode as a variable capacitor element, such that this varicap diode is changed by the tuning voltage from the LPF) (**paragraph [0067] and [0066]**).

At the time of the invention it would have been obvious of one skilled in the art to modify Hosonuma to include wherein an active element such as a varicap diode is employed as said variable load. Motivation for this modification would have been

Art Unit: 2686

compensate for the fluctuation of the sensitivity of the frequency thus improving the performance.

Regarding claim 7, Hosonuma discloses the mobile radio set according to claim 3, but fails to disclose wherein an active element such as a varicap diode is employed as said variable load.

In a similar field of endeavor, Uozumi wherein an active element such as a varicap diode is employed as said variable load (the RFVCO has a varicap diode as a variable capacitor element, such that this varicap diode is changed by the tuning voltage from the LPF) (**paragraph [0067] and [0066]**).

At the time of the invention it would have been obvious of one skilled in the art to modify Hosonuma to include wherein an active element such as a varicap diode is employed as said variable load. Motivation for this modification would have been compensate for the fluctuation of the sensitivity of the frequency thus improving the performance.

Regarding claim 8, Hosonuma discloses the mobile radio set according to claim 4, but fails to disclose wherein an active element such as a varicap diode is employed as said variable load.

In a similar field of endeavor, Uozumi wherein an active element such as a varicap diode is employed as said variable load (the RFVCO has a varicap diode as a variable capacitor element, such that this varicap diode is changed by the tuning voltage from the LPF) (**paragraph [0067] and [0066]**).

At the time of the invention it would have been obvious of one skilled in the art to modify Hosonuma to include wherein an active element such as a varicap diode is employed as said variable load. Motivation for this modification would have been compensate for the fluctuation of the sensitivity of the frequency thus improving the performance.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Celeste L. Loftin whose telephone number is 571-272-2842. The examiner can normally be reached on Monday thru Friday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CL


JOY K. CONTEE
PATENT EXAMINER